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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,008	06/29/2001	Shinichi Hara	Q65241	5699

7590 09/10/2004

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EXAMINER

HWU, DAVIS D

ART UNIT PAPER NUMBER

3752

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/894,008

Applicant(s)

HARA, SHINICHI

Examiner

Davis Hwu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 27-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7, 18, 19 and 37 is/are allowed.
- 6) ☒ Claim(s) 8, 10, 13-17, 20, 21, 27-36, 38 and 39 is/are rejected.
- 7) ☒ Claim(s) 9, 11, 12, 40 and 41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Amendment

1. Applicant's amendment of August 9, 2004 is acknowledged and entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

4. Claims 8, 10, 13-17, 20, 21, 38, 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Gamst.

Gamst shows a cleaning nozzle comprising:

- ejection nozzle portion having a minimum diameter portion d and a trumpet-shaped portion formed by a curved surface located upstream of the minimum diameter portion, an inclination angle of a tangent to the curved surface progressively decreasing toward the minimum diameter portion (see Figure 1);
- a gas ejection port formed along the curved surface and opened to an intermediate part of the trumpet-shaped portion (see Figure 1);
- a cleaning liquid ejection port formed inside of the gas ejection port (see Figure 1);
- wherein a gas jet flow passing through a central part of the gas ejection port converges at a point upstream of the minimum diameter portion as recited in claim 9 (see Figure 1).

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Gamst does not specifically disclose the gas being ejected from the gas ejection port at a speed higher than that of the cleaning liquid, however, since the surface area of the gas ejection port is smaller than that of the cleaning liquid ejection port, the gas will be ejected from the gas ejection port at a speed higher than that of the cleaning liquid from the cleaning liquid ejection port (see Figure 1). The use of a powder material as recited in claim 7 is a statement of intended use since it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.

Claim Rejections - 35 USC § 103

5. Claims 27-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gamst.

Although Gamst does not disclose allowing a small amount of clogging prevention liquid to be injected as recited, it would have been obvious to one having ordinary skill in the art at the time the invention was made that clogging prevention liquid could be fed into the air inlet 3 which would then be injected into an intermediate section of the pressurized gas flow passage between a cleaning material injection port and the cleaning nozzle. The amounts of clogging prevention liquid to be injected and the duration of the injections as recited in claims 29-36 are obvious matters of user choice depending on the amount of material formed in the surfaces that need to be removed by the clogging prevention liquid.

Allowable Subject Matter

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6. Claims 9, 11, 12, 40, and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 1-7, 18, 19, and 37 are allowed.

Response to Remarks

8. Applicant's arguments filed August 9, 2004 have been fully considered but they are not persuasive. Applicant's argument that the relative speeds of the air and water in Gamst is controlled by many factors in addition to the outlet sizes such as differences in pressures is acknowledged. Operating condition factors such as the water and air pressures are obvious matters of user preference. If the pressure of the air is higher than that of the liquid, the air will obviously be at a higher speed than the liquid. If the pressures are the same, the air will eject a higher speed than the liquid and even if the air has a lower pressure than the liquid, the air can still be ejected at a higher speed than that of the liquid depending on the actual pressure differential because Gamst shows that his air ejection port has a much smaller cross-section than the ejection port of the liquid. The device of Gamst is thus fully capable of ejecting gas at a higher speed than that of the liquid.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davis Hwu whose telephone number is 703-305-1663. The examiner can normally be reached on M-F 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Y. Mar can be reached on (703)308-2087. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9302.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0861.



Davis Hwu